Exploring the potential of artificial intelligence tools in educational measurement and assessment

Abstract

Artificial intelligence (AI) is transforming various industries, and education is no exception. Rapid advancements in AI technology have become essential for educators and educational assessment professionals to enhance teaching and learning experiences. AI-powered educational assessment tools provide numerous benefits, including improving the accuracy and efficiency of assessments, generating personalized feedback for students, and enabling teachers to adapt their teaching strategies to meet the unique needs of each student. Therefore, AI has the potential to revolutionize the way education is delivered and assessed, ultimately leading to better educational outcomes for students. This paper explores the various applications of AI tools in educational measurement and assessment. Specifically, it discusses the integration of large language AI models in classroom assessment, in specific areas such as test purpose determination and specification, developing, test blueprint, test item generation/development, preparation of test instructions, item assembly/selection, test administration, test scoring, interpretation of test results, test analysis/appraisal, and reporting. It analyses the role of teachers in AI-based assessment and the challenges of using AI-powered tools in educational assessment. Finally, the paper presents strategies to address these challenges and enhance the effectiveness of AI in educational assessment. In conclusion, using AI in educational assessment has benefits and limitations. As such, educators, policymakers, and stakeholders must work together to develop strategies that maximize the benefits of AI in educational assessment while mitigating the associated risks. The application of AI in educational assessment can ultimately transform education, improve learning outcomes, and equip students with the skills needed to succeed in the 21st century.